

55. Mercury contaminated area south  
of CPP T-15.

# INITIAL ASSESSMENT FORM

## SITE NAME AND LOCATION

|  |                   |  |                    |
|--|-------------------|--|--------------------|
| 01 SITE NAME<br>Mercury contaminated area south of CPP T-15.   |                   | 02 ADDRESS<br>Idaho National Engineering Laboratory (INEL) |                    |
| 03 CITY<br>Scoville  | 04 STATE<br>Idaho | 05 ZIP CODE<br>83403                                       | 06 COUNTY<br>Butte |
| 09 COORDINATES: NORTH<br><u>6 9 4 9 5 0</u>  |                   | EAST<br><u>2 9 7 6 2 5</u>                                 |                    |
| 07 COUNTY CODE   |                   | 08 CONG. DIST.   |                    |
| 10 DIRECTIONS TO SITE (Starting from nearest public road)<br>N. on Lincoln Blvd.; E. on Cleveland Ave. |                   |  |                    |

## II. OWNER/OPERATOR

|  |                   |                                    |                                       |
|--|-------------------|------------------------------------|---------------------------------------|
| 01 OWNER (If known)<br>Department of Energy (DOE)        |                   | 02 STREET ADDRESS<br>785 DOE Place |                                       |
| 03 CITY<br>Idaho Falls                                   | 04 STATE<br>Idaho | 05 ZIP CODE<br>83402               | 06 TELEPHONE NUMBER<br>(208) 526-1122 |
| 07 OPERATOR (If known)<br>Westinghouse Idaho Nuclear Co. |                   | 08 STREET ADDRESS<br>P.O. Box 4000 |                                       |
| 09 CITY<br>Idaho Falls                                   | 10 STATE<br>Idaho | 11 ZIP CODE<br>83403               | 12 TELEPHONE NUMBER<br>(208) 526-0998 |

## III. CHARACTERIZATION OF POTENTIAL HAZARD

|   |   |
|---|---|
| 01 ON SITE INSPECTION <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO DATE <u>7 /10 /86</u>   |   |
| 02 SITE STATUS (Check one)<br><input type="checkbox"/> A. Active SWMU <input checked="" type="checkbox"/> B. Inactive <input type="checkbox"/> C. Unknown | 03 YEARS RECEIVED HAZ WASTE<br><u>      </u> / 1984 <input checked="" type="checkbox"/><br>Start Stop Unknown |
| 04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED<br>See Waste Information Section   |   |
| 05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION<br>See Hazardous Conditions and Incidents Section                                     |   |

## IV. INFORMATION AVAILABLE FROM

|   |                               |                                       |
|---|-------------------------------|---------------------------------------|
| 01 CONTACT<br>Clifford Clark                              | 02 OF (Agency/Org.)<br>DOE-ID | 03 TELEPHONE NUMBER<br>(208) 526-1122 |
| 04 PERSON RESPONSIBLE<br>FOR ASSESSMENT<br>D. Joan Poland | 05 AGENCY<br>WINCO            | 06 ORG.<br>N&IS                       |
| 07 TELEPHONE NUMBER<br>(208) 526-3650                     |                               |                                       |
| 08 DATE<br><u>10 /16 /86</u><br>Mon Day Year              |                               |                                       |

|                   |
|-------------------|
| WASTE INFORMATION |
|-------------------|

## I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

|   |                                    |
|---|------------------------------------|
| <input type="checkbox"/> A. Solid                                     | <input type="checkbox"/> E. Slurry |
| <input type="checkbox"/> B. Powder Fines                              | <input type="checkbox"/> F. Liquid |
| <input type="checkbox"/> C. Sludge                                    | <input type="checkbox"/> G. Gas    |
| <input checked="" type="checkbox"/> D. Other <u>Contaminated soil</u> |                                    |

A. Solid                      E. Slurry  
B. Powder Fines        F. Liquid  
C. Sludge                  G. Gas  
x D. Other     Contaminated soil

02 WASTE QUANTITY AT SITE

TONS \_\_\_\_\_

CUBIC YARDS 10 \_\_\_\_\_

NO. OF DRUMS \_\_\_\_\_

TONS \_\_\_\_\_  
CUBIC YARDS 10  
NO. OF DRUMS \_\_\_\_\_

03 WASTE CHARACTERISTICS (Check all that apply)

|  |   |   |  |
|--|---|---|--|
| <input checked="" type="checkbox"/> A. Toxic | <input checked="" type="checkbox"/> D. Persistent | <input type="checkbox"/> G. Flammable       | <input type="checkbox"/> J. Explosive      |
| <input type="checkbox"/> B. Corrosive        | <input type="checkbox"/> E. Soluble               | <input type="checkbox"/> H. Ignitable       | <input type="checkbox"/> K. Reactive       |
| <input type="checkbox"/> C. Radioactive      | <input type="checkbox"/> F. Infectious            | <input type="checkbox"/> I. Highly Volatile | <input type="checkbox"/> L. Incompatible   |
|  |   |   | <input type="checkbox"/> M. Not Applicable |

03 WASTE CHARACTERISTICS (Check all that apply)

|  |   |   |  |
|--|---|---|--|
| <input checked="" type="checkbox"/> A. Toxic | <input checked="" type="checkbox"/> D. Persistent | <input type="checkbox"/> G. Flammable       | <input type="checkbox"/> J. Explosive      |
| <input type="checkbox"/> B. Corrosive        | <input type="checkbox"/> E. Soluble               | <input type="checkbox"/> H. Ignitable       | <input type="checkbox"/> K. Reactive       |
| <input type="checkbox"/> C. Radioactive      | <input type="checkbox"/> F. Infectious            | <input type="checkbox"/> I. Highly Volatile | <input type="checkbox"/> L. Incompatible   |
|  |   |   | <input type="checkbox"/> M. Not Applicable |

|                |
|----------------|
| II. WASTE TYPE |
|----------------|

| CATEGORY | SUBSTANCE NAME          | 01 GROSS AMOUNT | 02 UNIT | COMMENTS |
|----------|-------------------------|-----------------|---------|----------|
| SLU      | Sludge                  |                 |         |          |
| OLW      | Oily Waste              |                 |         |          |
| SOL      | Solvents                |                 |         |          |
| PSD      | Pesticides              |                 |         |          |
| OCC      | Other organic chemicals |                 |         |          |
| IOC      | Inorganic chemicals     |                 |         |          |
| ACD      | Acids                   |                 |         |          |
| BAS      | Bases                   |                 |         |          |
| MES      | Heavy metals            |                 |         |          |

### III. HAZARDOUS CONSTITUENTS

[illegible]

IV. SOURCES OF INFORMATION  
Use specific references, e.g., state titles, sample analysis reports, etc.)  
Site inspections, personnel interviews, process records, laboratory records.

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Site inspections, personnel interviews, process records, laboratory records.

Site inspections, personnel interviews, process records, laboratory records.

## HAZARDOUS CONDITIONS AND INCIDENTS

## 1. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONT. 02 ☐ OBSERVED (Date ) ☐ POTENTIAL  
03 NARRATIVE DESCRIPTION: ☐ ALLEGED  
Not Applicable

01 ☐ B. SURFACE WATER CONT. 02 ☐ OBSERVED (Date ) ☐ POTENTIAL  
03 NARRATIVE DESCRIPTION: ☐ ALLEGED  
Not Applicable

01 ☐ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (Date ) ☐ POTENTIAL  
03 POPULATION POTENTIALLY AFFECTED ☐ 04 NARRATIVE DESCRIPTION ☐ ALLEGED  
Not Applicable

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (Date ) ☐ POTENTIAL  
03 POPULATION POTENTIALLY AFFECTED ☐ 04 NARRATIVE DESCRIPTION ☐ ALLEGED  
Not Applicable

01 ☐ E. DIRECT CONTACT 02 ☐ OBSERVED (Date ) ☐ POTENTIAL  
03 POPULATION POTENTIALLY AFFECTED ☐ 04 NARRATIVE DESCRIPTION ☐ ALLEGED  
Not Applicable

01 ☒ F. CONTAMINATION OF SOIL 02 ☐ OBSERVED (Date ) ☒ POTENTIAL  
03 NARRATIVE DESCRIPTION: ☐ ALLEGED  
The volume of potentially contaminated soil is approximately  
10 cubic yards.

01 ☐ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (Date ) ☐ POTENTIAL  
03 NARRATIVE DESCRIPTION: ☐ ALLEGED  
Not Applicable

## HAZARDOUS CONDITIONS AND INCIDENTS

## I. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA 02 ☐ OBSERVED (Date ) ☐ POTENTIAL  
04 NARRATIVE DESCRIPTION: ☐ ALLEGED  
Not Applicable

01 ☐ K. DAMAGE TO FAUNA 02 ☐ OBSERVED (Date ) ☐ POTENTIAL  
04 NARRATIVE DESCRIPTION: (include name(s) of species) ☐ ALLEGED  
Not Applicable

01 ☐ L. CONTAMINATION OF FOOD CHAIN 02 ☐ OBSERVED (Date ) ☐ POTENTIAL  
04 NARRATIVE DESCRIPTION: ☐ ALLEGED  
Not Applicable

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES 02 ☐ OBSERVED (Date ) ☐ POTENTIAL  
(SPILL RUNOFF, STANDING LIQUIDS/LEAKING DRUMS)  
03 NARRATIVE DESCRIPTION: ☐ ALLEGED  
Not Applicable

01 ☐ N. DAMAGE TO OFFSITE PROPERTY 02 ☐ OBSERVED (Date ) ☐ POTENTIAL  
04 NARRATIVE DESCRIPTION: ☐ ALLEGED  
Not Applicable

01 ☐ O. CONTAMINATION OF SEWERS, STORM 02 ☐ OBSERVED (Date ) ☐ POTENTIAL  
DRAINS, WWTPs  
04 NARRATIVE DESCRIPTION: ☐ ALLEGED  
Not Applicable

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING 02 ☐ OBSERVED (Date ) ☐ POTENTIAL  
04 NARRATIVE DESCRIPTION: ☐ ALLEGED  
Not Applicable

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL OR ALLEGED HAZARDS

III. COMMENTS  
None

IV. SOURCES OF INFORMATION (List specific references, e.g., state titles,  
sample analysis, reports)  
Site inspections, personnel interview, disposal quantity records and  
Installation Assessment Report.

PRIORITY RANKING SYSTEM

I. GENERAL FACILITY INFORMATION

FACILITY NAME: CPP Mercury Contaminated Area

LOCATION: Near CPP-715 (South)

POINT OF CONTACT: NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_

REVIEWER: D. Joan Poland DATE: 10/20/86

II. GENERAL FACILITY DESCRIPTION

GENERAL DESCRIPTION OF THE FACILITY: (For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

During a baseline study at the CPP in 1984,  
painters/carpenters were observed discharging  
used paint solvents to the soil. In August  
1985, seven soil sample analyses indicated  
mercury levels ranging from 48 to 236 ppb. Some  
soil has been removed.

III. SCORES

SM = 14.1 (Sgw= 24.4 Ssw= 0 Sa= 0 )

SFE = 0

SDC = 0

## GROUND WATER ROUTE WORKSHEET

| RATING FACTOR   | ASSIGNED VALUE<br>(Circle one) | MULTI-<br>PLIER | SCORE | MAX.<br>SCORE | REF.<br>Section |
|---|--------------------------------|-----------------|-------|---------------|-----------------|
|   |                                |                 |       |               | 3.2             |
| <b>1. ROUTE CHARACTERISTICS</b>                             |                                |                 |       |               |                 |
| Depth to Aquifer of Concern                                 | 0 1 2 3                        | 2               |       | 6             |                 |
| Net Precipitation   | 0 1 2 3                        | 1               |       | 3             |                 |
| Permeability of the Unsaturated Zone                        | 0 1 2 3                        | 1               |       | 3             |                 |
| Physical State  | 0 1 2 3                        | 1               |       | 3             |                 |
| Total Route Characteristics Score                           |                                |                 | 5     | 15            |                 |
| <b>2. CONTAINMENT</b>                                       |                                | 0 1 2 3         | 1     | 3             | 3.3             |
| <b>3. WASTE CHARACTERISTICS</b>                             |                                |                 |       |               |                 |
| Toxicity/Persistence  | 0 3 6 9 12 15 18               | 1               |       | 18            | 3.4             |
| Hazardous Waste Quantity                                    | 0 1 2 3 4 5 6 7 8              | 1               |       | 8             |                 |
| Total Waste Characteristics Score                           |                                |                 | 19    | 26            |                 |
| 4. Multiply lines 1 x 2 x 3                                 |                                |                 | 285   | 1170          |                 |
| 5. Divide line 4 by 1170 and multiply by 100      Sgw= 24.4 |                                |                 |       |               |                 |

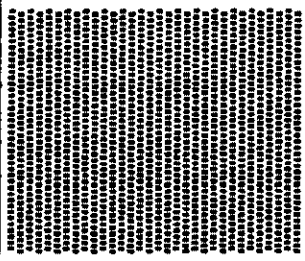
# SURFACE WATER ROUTE WORKSHEET

| RATING FACTOR                                | ASSIGNED VALUE<br>(Circle one) | MULTI-<br>PLIER | SCORE  | MAX.<br>SCORE | REF.<br>Section |
|--|--------------------------------|-----------------|--------|---------------|-----------------|
| 4.2  |                                |                 |        |               |                 |
| <b>1. ROUTE CHARACTERISTICS</b>              |                                |                 |        |               |                 |
| Facility Slope and<br>Intervening Terrain    | 0 1 2 3                        | 1               |        | 3             |                 |
| 1-yr. 24-hr. Rainfall                        | 0 1 2 3                        | 1               |        | 3             |                 |
| Distance to Nearest<br>Surface Water         | 0 1 2 3                        | 2               |        | 6             |                 |
| Physical State                               | 0 1 2 3                        | 1               |        | 3             |                 |
| Total Route Characteristics Score            |                                |                 | 8      | 15            |                 |
| <b>2. CONTAINMENT</b>                        | 0 1 2 3                        | 1               | 0      | 3             | 4.3             |
| <b>3. WASTE CHARACTERISTICS</b>              |                                |                 |        |               |                 |
| Toxicity/Persistence                         | 0 3 6 9 12 15 18               | 1               |        | 18            | 4.4             |
| Hazardous Waste<br>Quantity                  | 0 1 2 3 4 5 6 7 8              | 1               |        | 8             |                 |
| Total Waste Characteristics Score            |                                |                 | 19     | 26            |                 |
| 4. Multiply lines 1 x 2 x 3                  |                                |                 | 0      | 1170          |                 |
| 5. Divide line 4 by 1170 and multiply by 100 |                                |                 | Ssw= 0 |               |                 |



# AIR ROUTE WORKSHEET

| RATING FACTOR  | ASSIGNED VALUE<br>(Circle one) | MULTI-<br>PLIER | SCORE | MAX.<br>SCORE | REF.<br>Section |
|--|--------------------------------|-----------------|-------|---------------|-----------------|
| 1.HISTORIC RELEASE                                   | 0 45                           | 1               | 0     | 45            | 5.1             |
| Date and Location: See attached supplement pages     |                                |                 |       |               |                 |
| If line 1 is 0, the Sa = 0. Enter on line 5.         |                                |                 |       |               |                 |
| If line 1 is 45, then proceed to line 2.             |                                |                 |       |               |                 |
| 2.WASTE CHARACTERISTICS                              |                                |                 |       |               | 5.2             |
| Reactivity and Incompatibility                       | 0 1 2 3                        | 1               |       | 3             |                 |
| Toxicity   | 0 1 2 3                        | 3               |       | 9             |                 |
| Hazardous Waste Quantity                             | 0 1 2 3 4 5 6 7 8              | 1               |       | 8             |                 |
| Total Waste Characteristics Score                    |                                |                 |       | 20            |                 |
| 3.TARGETS  |                                |                 |       |               | 5.3             |
| Population within 4-mile Radius                      | 0 9 12 15 18 21 24 27 30       | 1               |       | 30            |                 |
| Distance to Sensitive Environment                    | 0 1 2 3                        | 2               |       | 6             |                 |
| Land Use   | 0 1 2 3                        | 1               |       | 3             |                 |
| Total Target Scores                                  |                                |                 |       | 39            |                 |
| 4. Multiply lines 1 x 2 x 3                          |                                |                 |       | 35100         |                 |
| 5. Divide line 4 by 35100 and multiply by 100 Sa = 0 |                                |                 |       |               |                 |

|  | S  | S <sup>2</sup> |
|--|--|----------------|
| GROUNDWATER ROUTE SCORE (S <sub>gw</sub> )           | 24.4   | 285            |
| SURFACE WATER ROUTE SCORE (S <sub>sw</sub> )         | 0  | 0              |
| AIR ROUTE SCORE (S <sub>a</sub> )                    | 0  | 0              |
|  |  |                |
| $\sqrt{S_{gw} + S_{sw} + S_a}$                       |  | 285            |
| $\text{SQR}(S_{gw} + S_{sw} + S_a)$                  |  | 24.4           |
| $\text{SQR}(S_{gw} + S_{sw} + S_a)/1.73 = \text{SM}$ |  | 14.1           |

DOCUMENTATION RECORDS  
FOR  
HAZARD RANKING SYSTEM

INSTRUCTIONS: As briefly as possible, summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference. Include the location of the document.

FACILITY NAME: CPP Mercury Contaminated Soil

LOCATION: Near CPP T-15 (South)

DATE SCORED: 10/20/86

PERSON SCORING: D. Jean Poland

PRIMARY SOURCE(S) OF INFORMATION:

*Site inspections, personnel interviews  
and process records*

FACTORS NOT SCORED DUE TO INSUFFICIENT INFORMATION:

COMMENTS OR QUALIFICATIONS:

## GROUNDWATER ROUTE

### 1. OBSERVED RELEASE - Undertake Corrective Action

Contaminants detected (3 maximum):

*None*

Rationale for attributing the contaminants to the facility:

### 2. ROUTE CHARACTERISTICS

#### Depth to Aquifer of Concern

Name/description of aquifer(s) of concern:

*Snake River Plain Aquifer*

Depth(s) from the ground surface to the highest seasonal level of the saturated zone [water table(s)] of the aquifer of concern:

*450 ft.*

Depth from the ground surface to the lowest point of waste disposal/storage:

*Surface*

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

9.07 inches

Mean annual lake or seasonal evaporation (list months for seasonal):

36 inches

Net precipitation (subtract the above figures):

- 26.93 inches

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

An interbedded sequence of basaltic lava flows and sedimentary deposits.

Permeability associated with soil type:

$10^{-7}$  to  $10^{-3}$  cm/sec

Physical State

Physical state of substances at time of disposal (or at present time for generated gases):

*Liquid*

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

*None*

Method of highest score:

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

*Mercury*

Compound with highest score:

*Mercury*

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

*No records of quantity  
Analysis of seven soil samples  
indicates 48 to 236 ppb.*

Basis of estimating and/or computing waste quantity:

*See above*

# Checklist for Groundwater Releases

| <u>Identifying Release</u>   | <u>Yes</u> | <u>No</u> |
|--|------------|-----------|
| 1. <u>Potential for Groundwater Releases from the Unit</u>   |            |           |
| o Unit type and design   |            |           |
| - Does the unit type (e.g., land-based) indicate the potential for release?  | ✓          | —         |
| - Does the unit have engineered structures (e.g., liners, leachate collection systems, proper construction materials) designed to prevent releases to groundwater? | —          | ✓         |
| o Unit operation   |            |           |
| - Does the unit's age (e.g., old unit) or operating status (e.g., inactive, active) indicate the potential for release?  | —          | ✓         |
| - Does the unit have poor operating procedures that increase the potential for release?  | —          | ✓         |
| - Does the unit have compliance problems that indicate the potential for a release to groundwater?   | —          | ✓         |
| o Physical condition   |            |           |
| - Does the unit's physical condition indicate the potential for release (e.g., lack of structural integrity, deteriorating liners, etc.)?                          | —          | ✓         |
| o Locational characteristics   |            |           |
| - Is the unit located on permeable soil so the release could migrate through the unsaturated soil zone?  | ✓          | —         |
| - Is the unit located in an arid area where the soil is less saturated and therefore a release has less potential for downward migration?                          | ✓          | —         |
| - Does the depth from the unit to the uppermost aquifer indicate the potential for release?  | —          | ✓         |

## Checklist for Groundwater Releases

|  | <u>Yes</u> | <u>No</u> |
|--|------------|-----------|
| - Does the rate of groundwater flow greatly inhibit the migration of a release from the facility?  | <u>✓</u>   | <u>—</u>  |
| - Is the facility located in an area that recharges surface water?   | <u>—</u>   | <u>✓</u>  |
| o Waste characteristics  |            |           |
| - Does the waste in the unit exhibit high or moderate characteristics of mobility (e.g., tendency not to sorb soil particles or organic matter in the unsaturated zone)? | <u>—</u>   | <u>✓</u>  |
| - Does the waste exhibit high or moderate levels of toxicity?  | <u>✓</u>   | <u>—</u>  |
| 2. <u>Evidence of Groundwater Releases</u>   |            |           |
| o Existing groundwater monitoring systems  |            |           |
| - Is there an existing system?   | <u>—</u>   | <u>✓</u>  |
| - Is the system adequate?  | <u>—</u>   | <u>✓</u>  |
| - Are there recent analytical data that indicate a release?  | <u>—</u>   | <u>✓</u>  |
| o Other evidence of groundwater releases   |            |           |
| - Is there evidence of contamination around the unit (e.g., discolored soils, lack of or stressed vegetation) that indicates the potential for a release to groundwater? | <u>—</u>   | <u>✓</u>  |
| - Does local well water or spring water sampling data indicate a release from the unit?  | <u>—</u>   | <u>✓</u>  |

### Determining the Relative Effect of the Release on Human Health and the Environment

#### 1. Exposure Potential

|  |          |          |
|--|----------|----------|
| o Conditions that indicate potential exposure  |          |          |
| - Are there drinking water well(s) located near the unit?  | <u>—</u> | <u>✓</u> |
| - Does the direction of groundwater flow indicate the potential for hazardous constituents to migrate to drinking water wells? | <u>—</u> | <u>✓</u> |



SURFACE WATER ROUTE

1. OBSERVED RELEASE - Undertake Corrective Action

Contaminants detected in surface water at the facility or downhill from it (3 maximum):

*None*

Rationale for attributing the contaminants to the facility:

2. ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

*0.04%*

Name/description of nearest downslope surface water:

*Big Lost River*

Average slope of terrain between facility and above cited surface water body in percent:

*0.07%*

Is the facility located either totally or partially in surface water?

*No*

Is the facility completely surrounded by areas of high elevation?

*No*

1-year 24-Hour Rainfall in Inches

less than 2 inches

Distance to Nearest Downslope Surface Water

*2000*

Physical State of Waste

*Contaminated Soil*

### 3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

*None*

Method with highest score:

# Checklist for Surface Water/Surface Drainage Releases

Yes

No

## Identifying Releases

### 1. Potential for Surface Water/Surface Drainage Release from the Facility

#### o Proximity to Surface Water and/or to Off-site Receptors

- Could surface run-off from the unit reach the nearest downgradient surface water body? \_\_\_\_\_

✓

- Could surface run-off from the unit reach off-site receptors (e.g., if facility is located adjacent to populated areas and no barrier exists to prevent overland surface run-off migration)? \_\_\_\_\_

✓

#### o Release Migration Potential

- Does the slope of the facility and intervening terrain indicate potential for release? \_\_\_\_\_

✓

- Is the intervening terrain characterized by soils and vegetation that allow overland migration (e.g., clayey soils, and sparse vegetation)? \_\_\_\_\_

✓

- Does data on one-year 24-hour rainfall indicate the potential for area storms to cause surface water or surface drainage contamination as a result of run-off? \_\_\_\_\_

✓

#### o Unit Design and Physical Condition

- Are engineered features (e.g., run-off control systems) designed to prevent release from the unit? \_\_\_\_\_

✓

- Does the operational history of the unit indicate that a release has taken place (e.g., old, closed or inactive unit, not inspected regularly, improperly maintained)? \_\_\_\_\_

✓

- Does the physical condition of the unit indicate that releases may have occurred (e.g., cracks or stress fractures in tanks or erosion of earthen dikes of surface impoundments)? \_\_\_\_\_

✓

# Checklist for Surface Water/Surface Drainage Releases

|  | <u>Yes</u> | <u>No</u> |
|--|------------|-----------|
| o Waste Characteristics  |            |           |
| - Is the volume of discharge high relative to the size and flow rate of the surface water body?                            | —          | ✓         |
| - Do constituents in the discharge tend to sorb to sediments (e.g., metals)?   | ✓          | —         |
| - Do constituents in the discharge tend to be transported downstream?  | —          | ✓         |
| - Do waste constituents exhibit moderate or high characteristics of persistence (e.g., PCBs, dioxins, etc.)?               | ✓          | —         |
| - Do waste constituents exhibit moderate or high characteristics of toxicity (e.g., metals, chlorinated pesticides, etc.)? | ✓          | —         |
| 2. Evidence of Surface Water/Surface Drainage Releases   |            |           |
| o Are there unpermitted discharges from the facility to surface water that require an NPDES or a Section 404 permit?       | —          | ✓         |
| o Is there visible evidence of uncontrolled run-off from units at the facility?  | —          | ✓         |
| <u>Determining the Relative Effect of the Release on Human Health and the Environment</u>                                  |            |           |
| 1. o Are there drinking water intakes nearby?  | —          | ✓         |
| o Could human and/or environmental receptors come into contact with surface drainage from the facility?                    | —          | ✓         |
| o Are there irrigation water intakes nearby?   | —          | ✓         |
| o Could a sensitive environment (e.g., critical habitat, wetlands) be affected by the discharge (if it is nearby)?         | —          | ✓         |

AIR ROUTE

1. OBSERVED RELEASE

Contaminants detected:

*None*

Date and Location of detection of contaminants:

Methods used to detect the contaminants:

Rationale for attributing the contaminants to the site:

2. WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

*None*

Most incompatible pair of compounds:

*None*

Toxicity

Most toxic compound:

*See #4 Page 4*

Hazardous Waste Quantity

Total quantity of hazardous waste:

*See #4 Page 4*

Basis of estimating and/or computing waste quantity:

*See #4 Page 4*

# Checklist for Air Releases

Yes

No

## Identifying Releases

### 1. Potential for Air Releases from the Facility

#### o Unit Characteristics

- Is the unit operating and does it expose waste to the atmosphere?            ✓

- Does the size of the unit (e.g., depth and surface area) create a potential for air release?            ✓

#### o Does the unit contain waste that exhibits a moderate or high potential for vapor phase release?

- Does the unit contain hazardous constituents of concern as vapor releases?            ✓

- Do waste constituents have a high potential for volatilization (e.g., physical form, concentrations, and constituent-specific physical and chemical parameters that contribute to volatilization)?            ✓

#### o Does the unit contain waste and exhibit site conditions that suggest a moderate or high potential for particulate release?

- Does the unit contain hazardous constituents of concern as particulate releases?            ✓

- Do constituents of concern as particulate releases (e.g., smaller, inhalable particulates) have potential for release via wind erosion, reentrainment by moving vehicles, or operational activities?            ✓

- Are particulate releases comprised of small particles that tend to travel off-site?            ✓

#### o Do certain environmental and geographic factors affect the concentrations of airborne contaminants?

- Do atmospheric/geographic conditions limit constituent dispersion (e.g., areas with atmospheric conditions that result in inversions)?            ✓

- Is the facility located in a hot, dry area? ✓

## Checklist for Air Releases

Yes

No

### 2. Evidence of Air Releases

- o Does on-site monitoring data show that releases have occurred or are occurring (e.g., OSHA data)?        ✓
- o Have particulate emissions been observed at the site?        ✓
- o Have there been citizen complaints concerning odors or observed particulate emissions from the site?        ✓

### Determining the Relative Effect of the Release on Human Health and the Environment

#### 1. Exposure Potential

- o Is a populated area located near the site?        ✓



## Checklist for Subsurface Gas Releases

Yes

No

### Identifying a Release

#### 1. Potential for Subsurface Gas Releases

- o Does the unit contain waste that generates methane or generates volatile constituents that may be carried by methane (e.g., decomposable refuse/volatile organic wastes)?

—

✓

- o Is the unit an active or closed landfill or a unit closed as a landfill (e.g., surface impoundments and waste piles)?

—

✓

#### 2. Migration of Subsurface Gas to On-site or Off-site Buildings

- o Are on-site or off-site buildings close to the unit?

—

✓

- o Do natural or engineered barriers prevent gas migration from the unit to on-site or off-site buildings (e.g., low soil permeability and porosity hydrogeologic barriers/liners, slurry walls, gas control systems)?

—

✓

- o Do natural site characteristics or man-made structures (e.g., underground power transmission lines, sewer pipes/sand and gravel lenses) facilitate gas migration from the unit to buildings?

—

✓

### Determining the Relative Effect of the Release on Human Health and the Environment

#### 1. Exposure Potential

- o Does building usage (e.g., residential, commercial) exhibit high potential for exposure?

—

✓

FIRE AND EXPLOSION

1. CONTAINMENT

Hazardous substances present:

*See # 4 Page 4*

Type of containment, if applicable:

2. WASTE CHARACTERISTICS

Direct Evidence

Type of instrument and measurements:

*None*

Ignitability

Compound used:

*None*

Reactivity

Most reactive compound:

*None*

Incompatibility

Most incompatible pair of compounds:

*None*

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

*See #4 Page 4*

Basis of estimating and/or computing waste quantity:

*See #4 Page 4*

3. TARGETS

Distance to Nearest Population

*6 ft.*

Distance to Nearest Building

*6 ft.*

Distance to Sensitive Environment

Distance to wetlands:

Greater than 100 feet

Distance to critical habitat:

Greater than 1/2 mile

Land Use

Distance to commercial/industrial area, if 1 mile or less:

The INEL is a research facility. There are no commercial/industrial facilities within 1 mile.

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

Greater than 2 miles

Distance to residential area, if 2 miles or less:

Greater than 2 miles

Distance to agricultural land in production within past 3 years, if 1 mile or less:

Greater than 1 mile

Distance to prime agricultural land in production within past 3 years,  
if 2 miles or less:

Greater than 2 miles

If a historic or landmark site (National Register or Historic Places  
and National Natural Landmarks) within the view of the site?

*Big Southern Butte*

Population Within 2-Mile Radius

*1828*

Buildings Within 2-Mile Radius

*189*

DIRECT CONTACT

1. OBSERVED INCIDENT

Date, location, and pertinent details of incident:

*None*

2. ACCESSIBILITY

Describe type of barrier(s):

*None*

3. CONTAINMENT

Type of containment, if applicable:

*None*

4. WASTE CHARACTERISTICS

Toxicity

Compounds evaluated:

*See #4 Page 4*

Compound with highest score:

*Mercury*

5. TARGETS

Population within one-mile radius

1367

Distance to critical habitat (of endangered species)

Greater than 1 mile